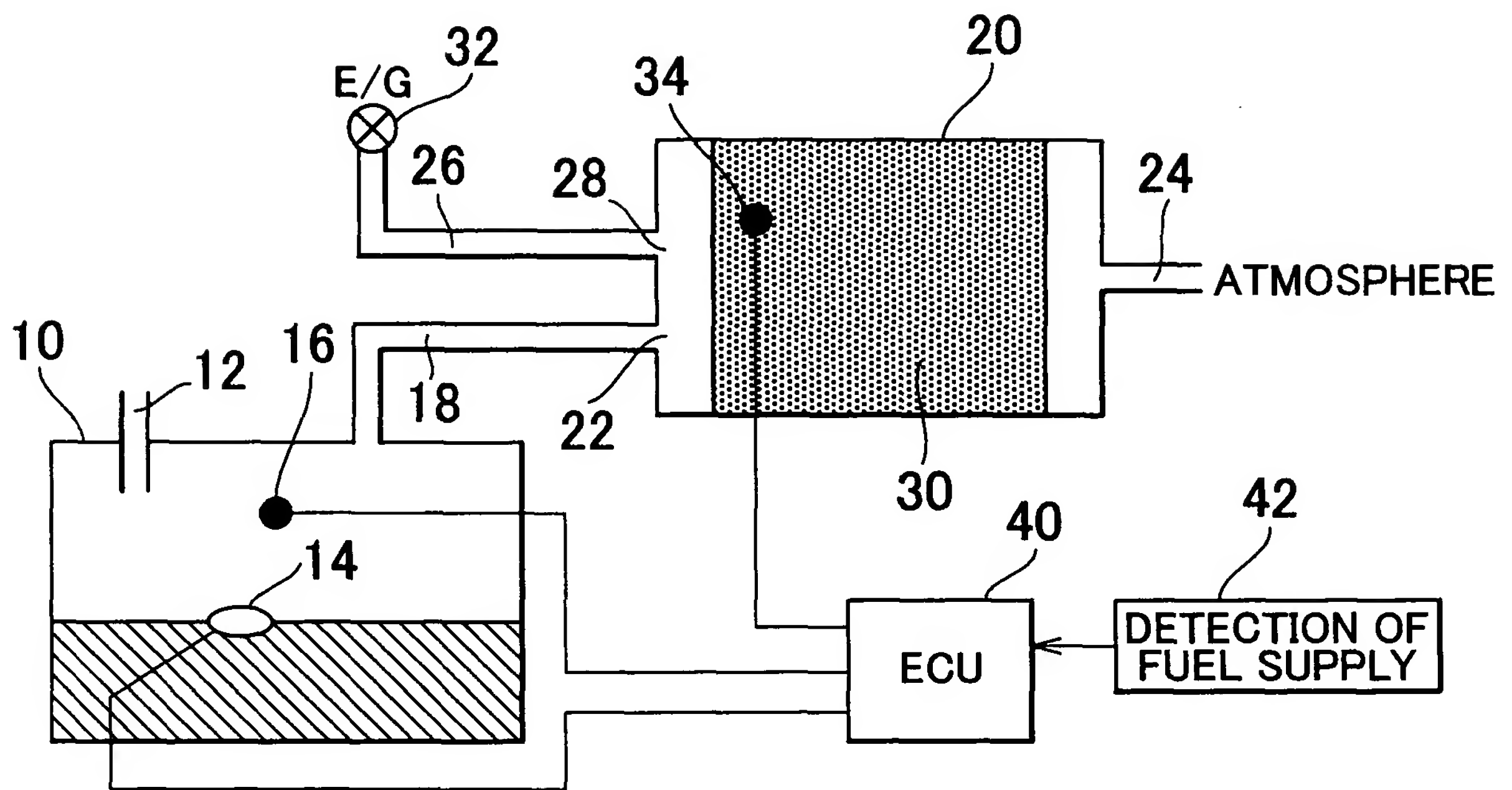
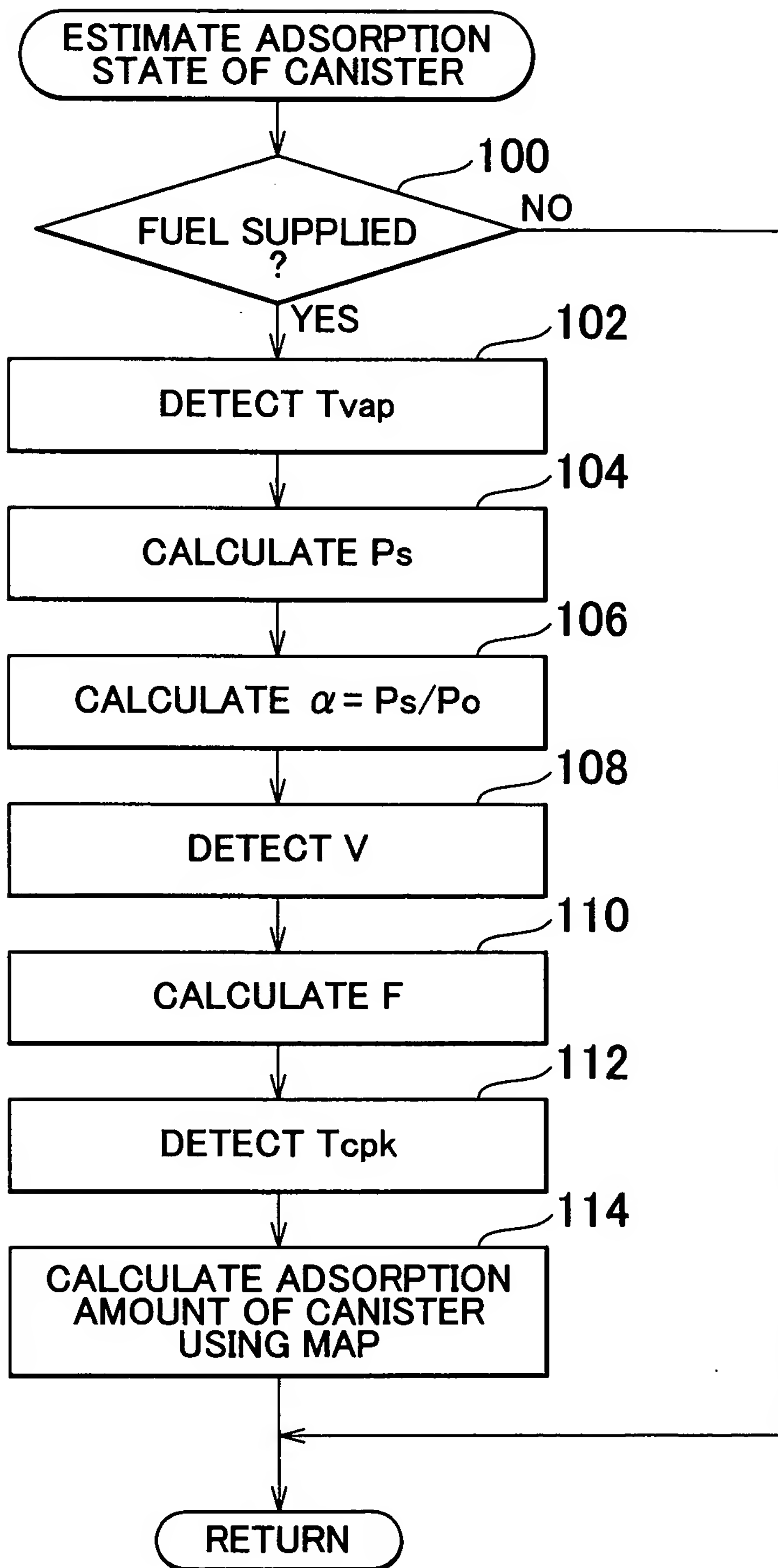


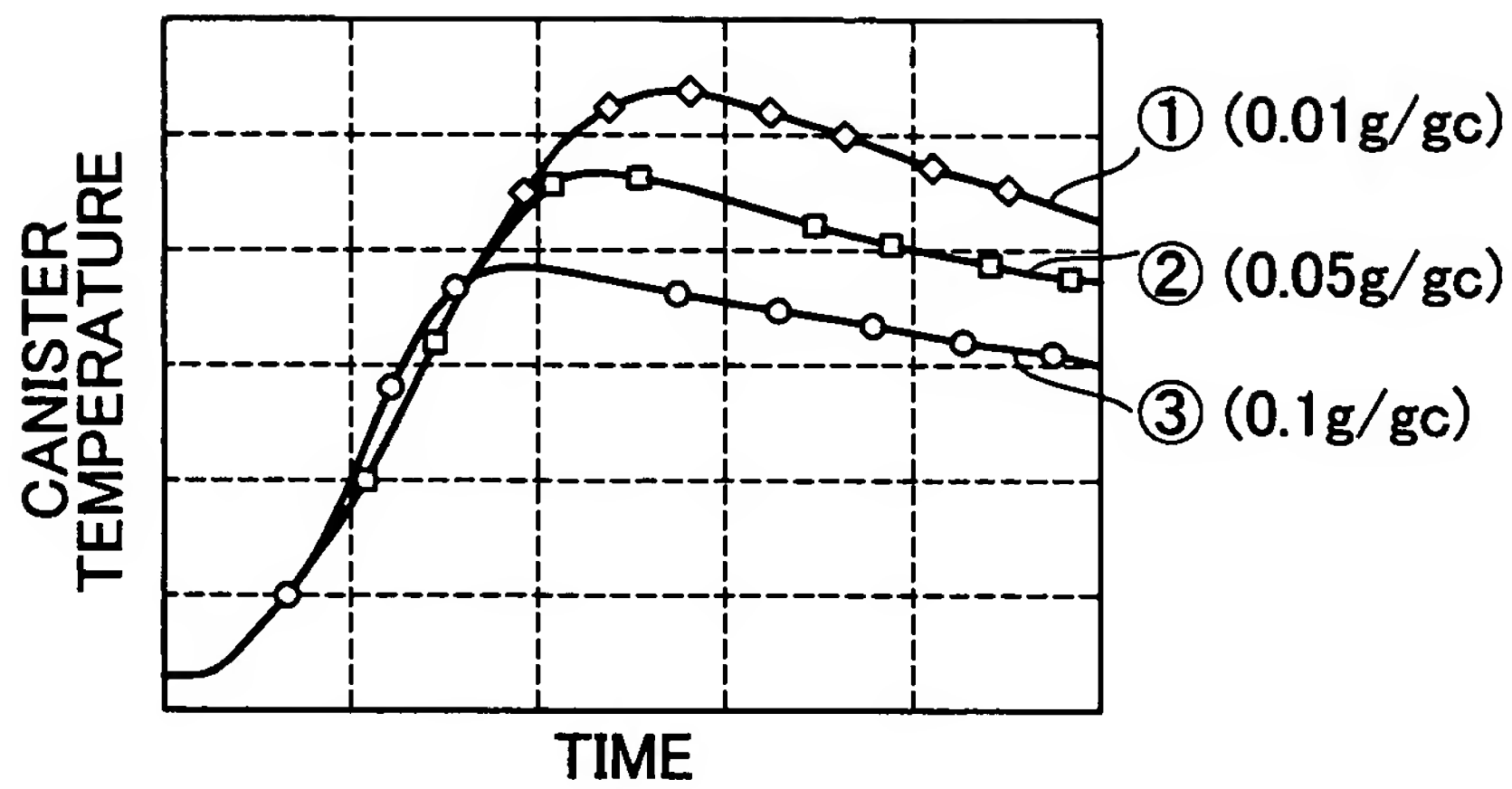
# FIG. 1



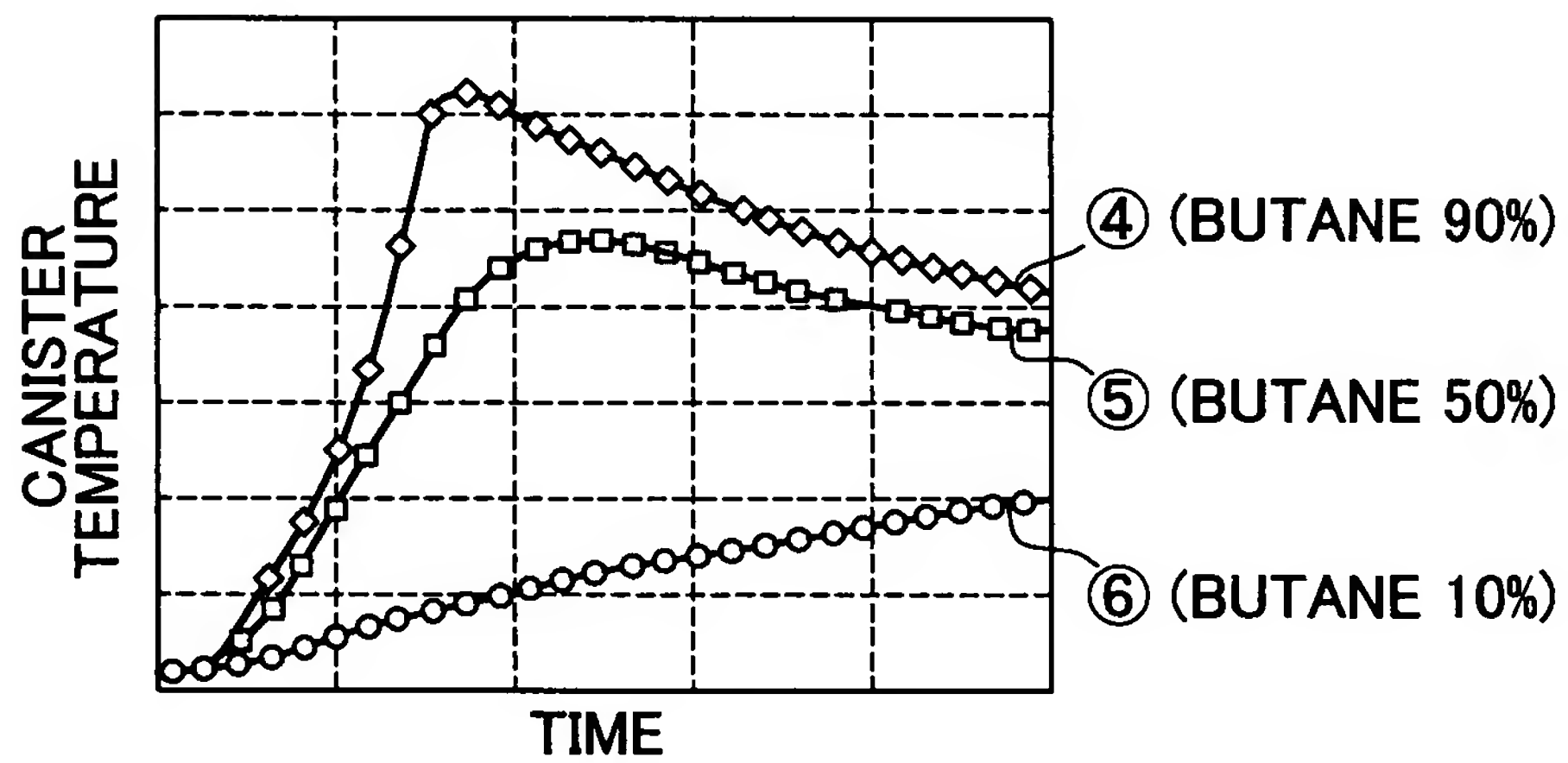
# FIG. 2



# FIG. 3



# FIG. 4



# FIG. 5

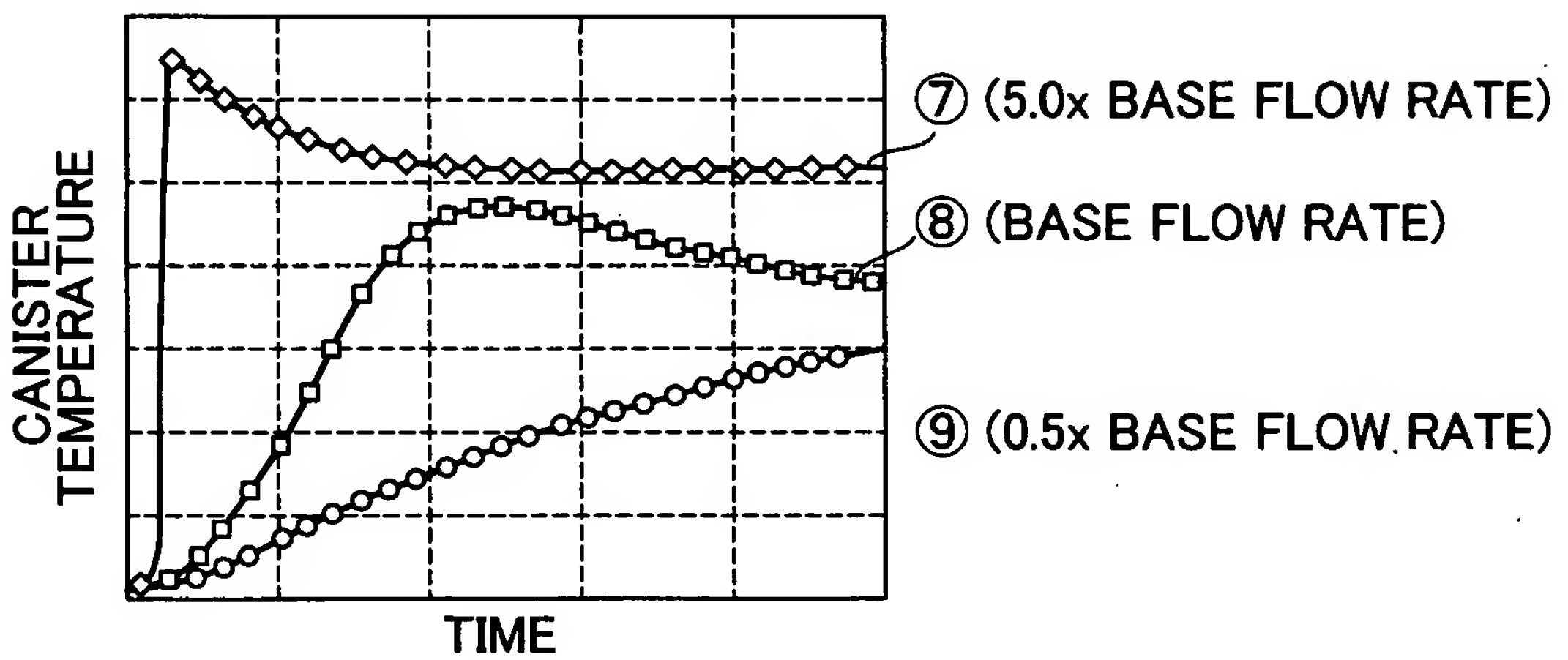


FIG. 6

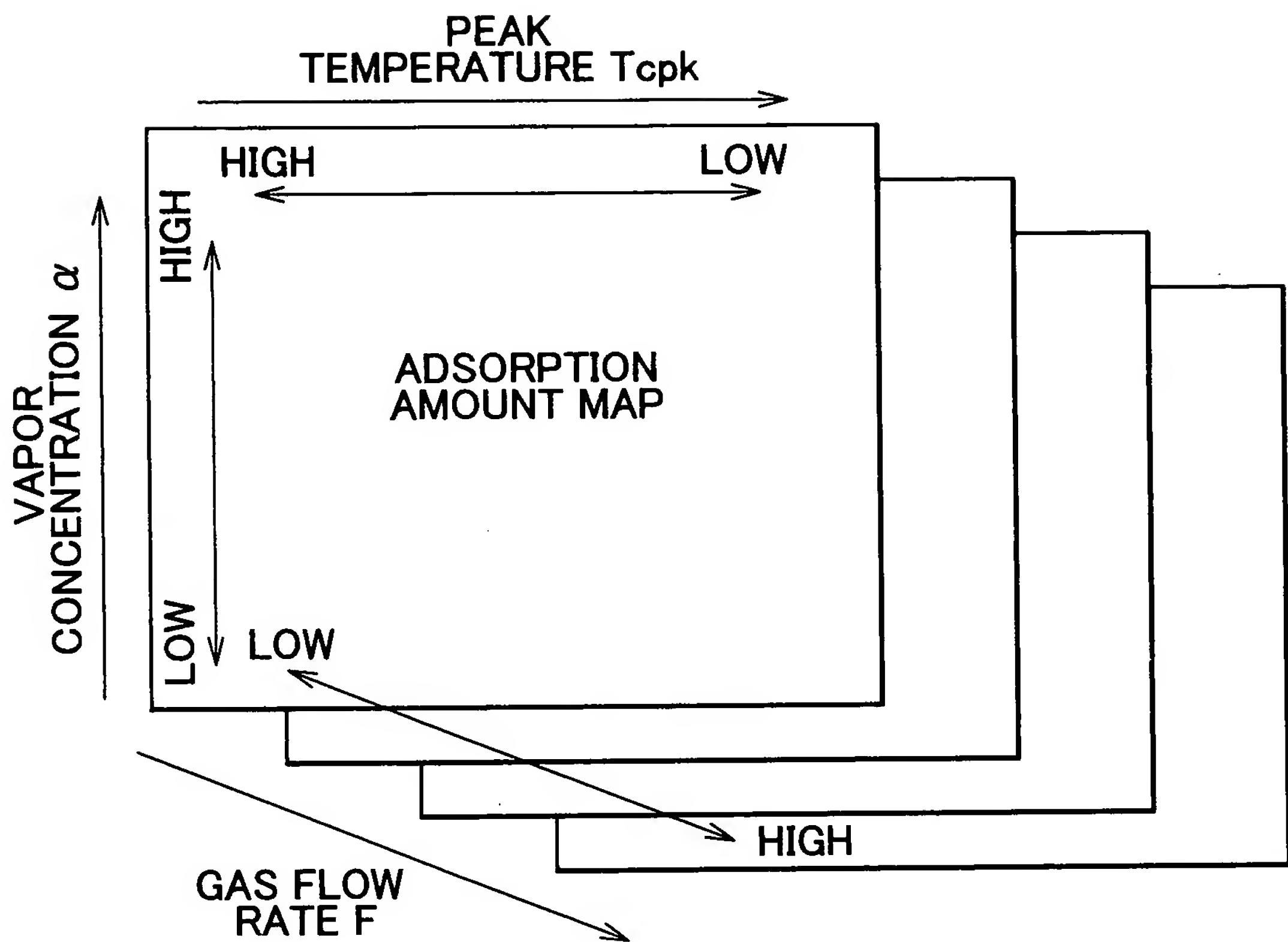
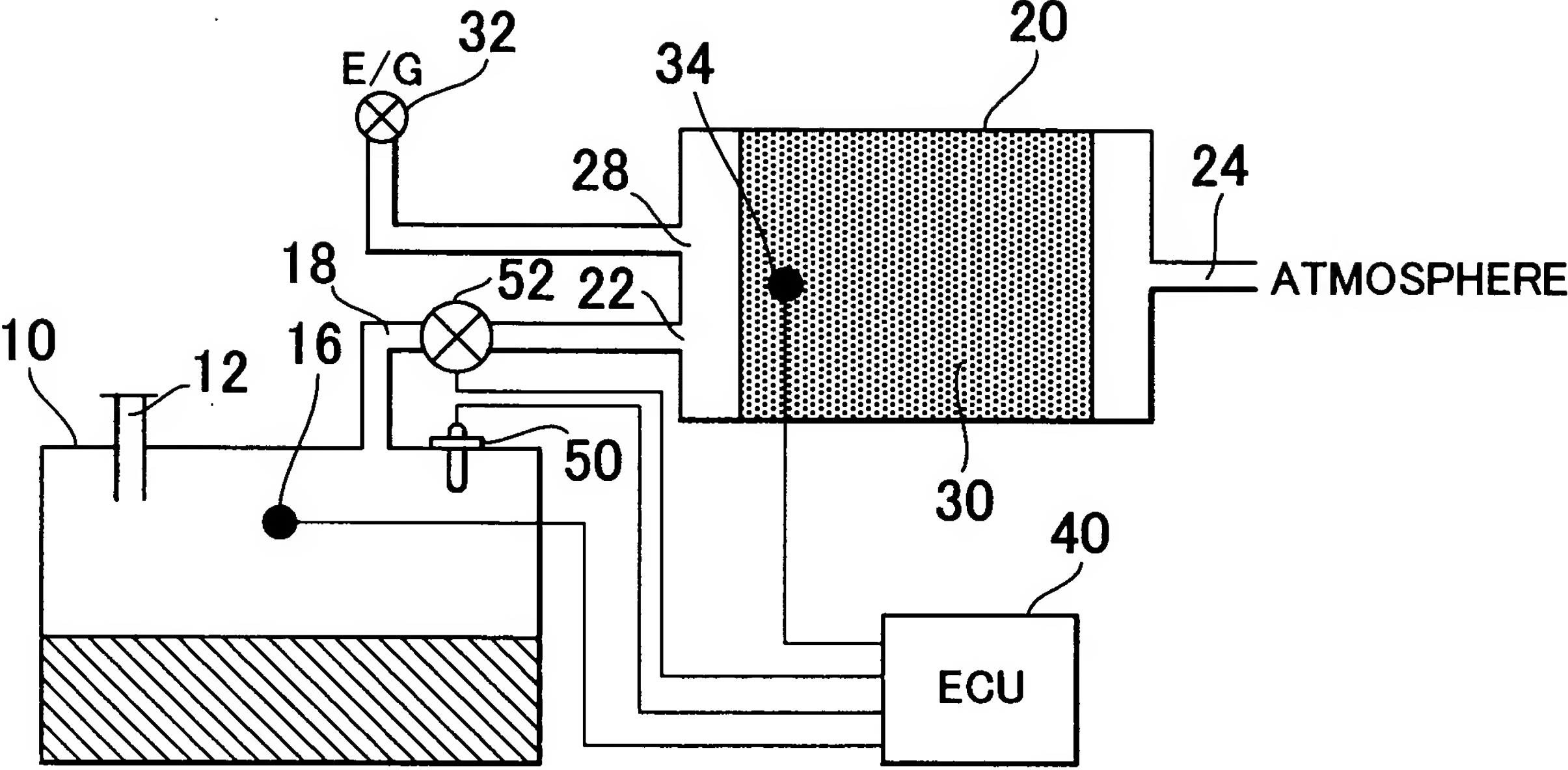


FIG. 7



# FIG. 8

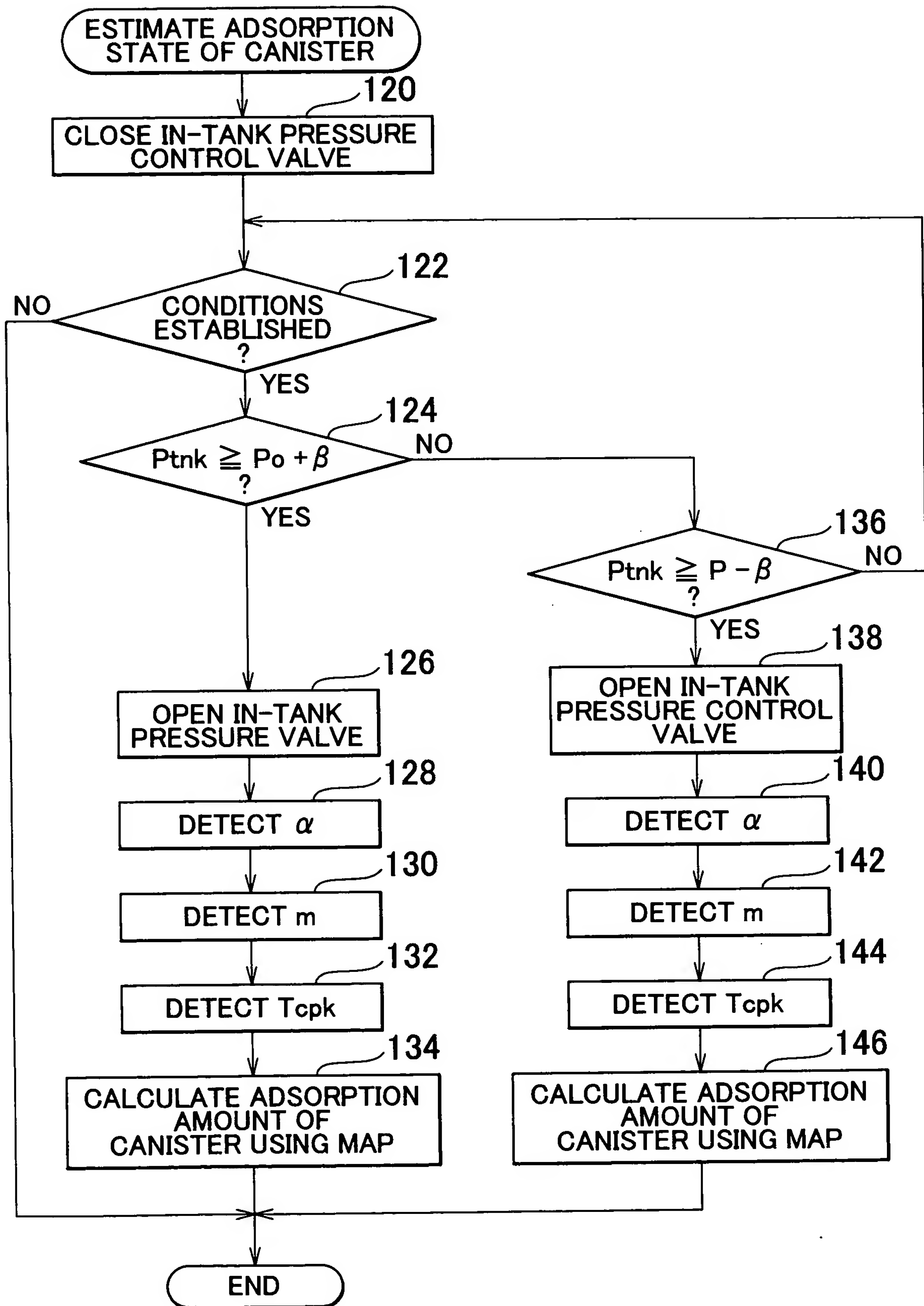


FIG. 9A

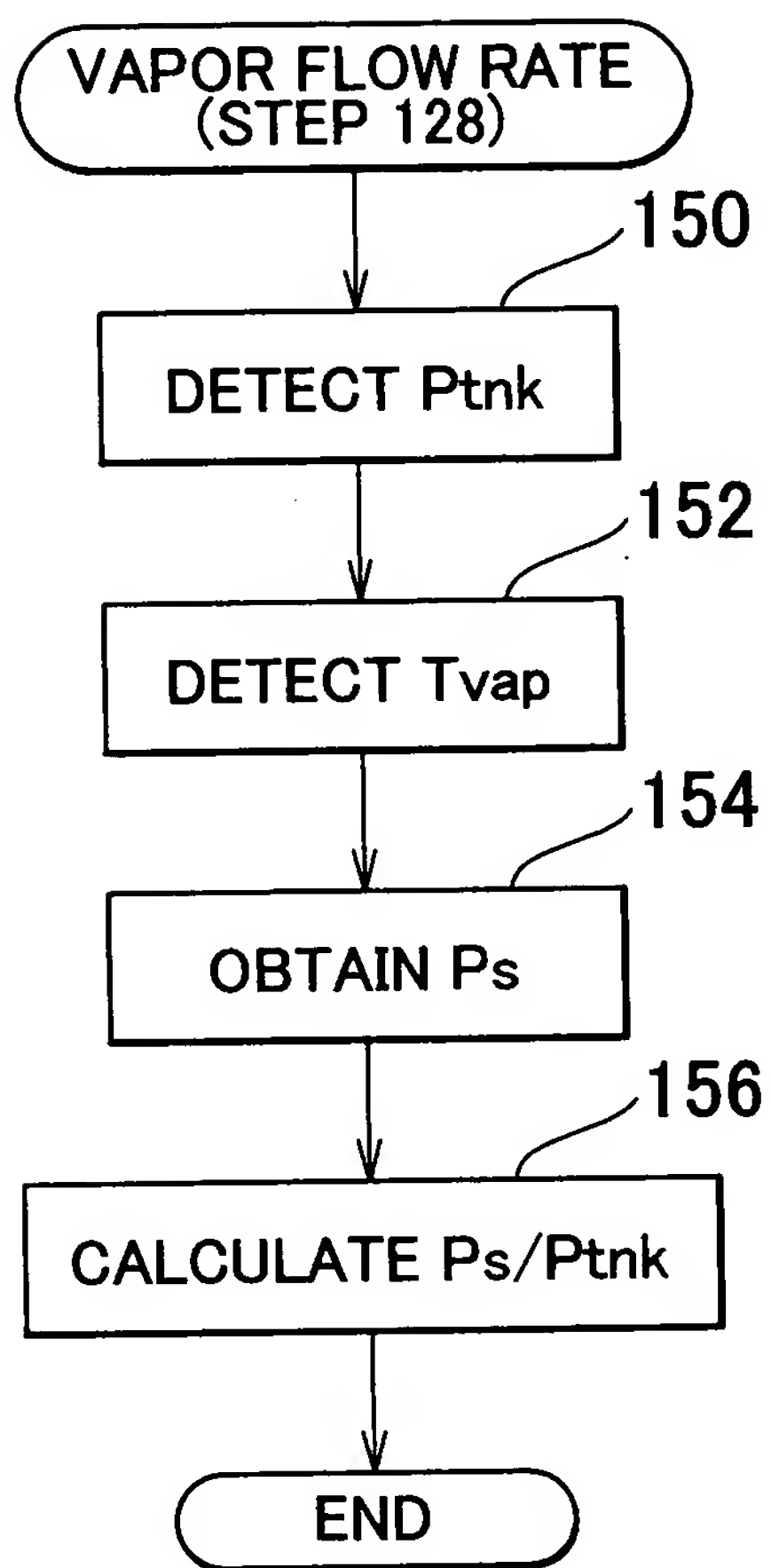
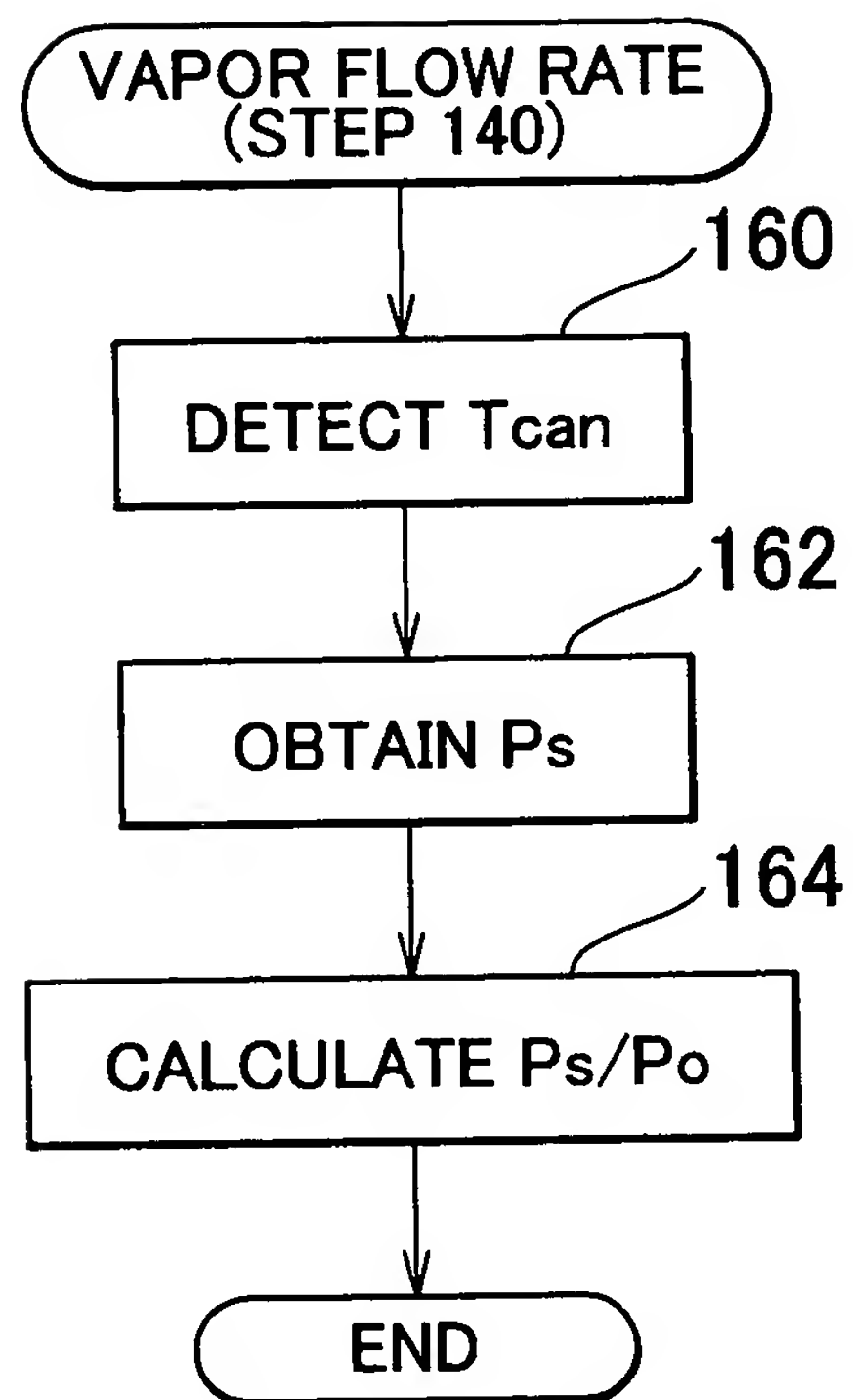
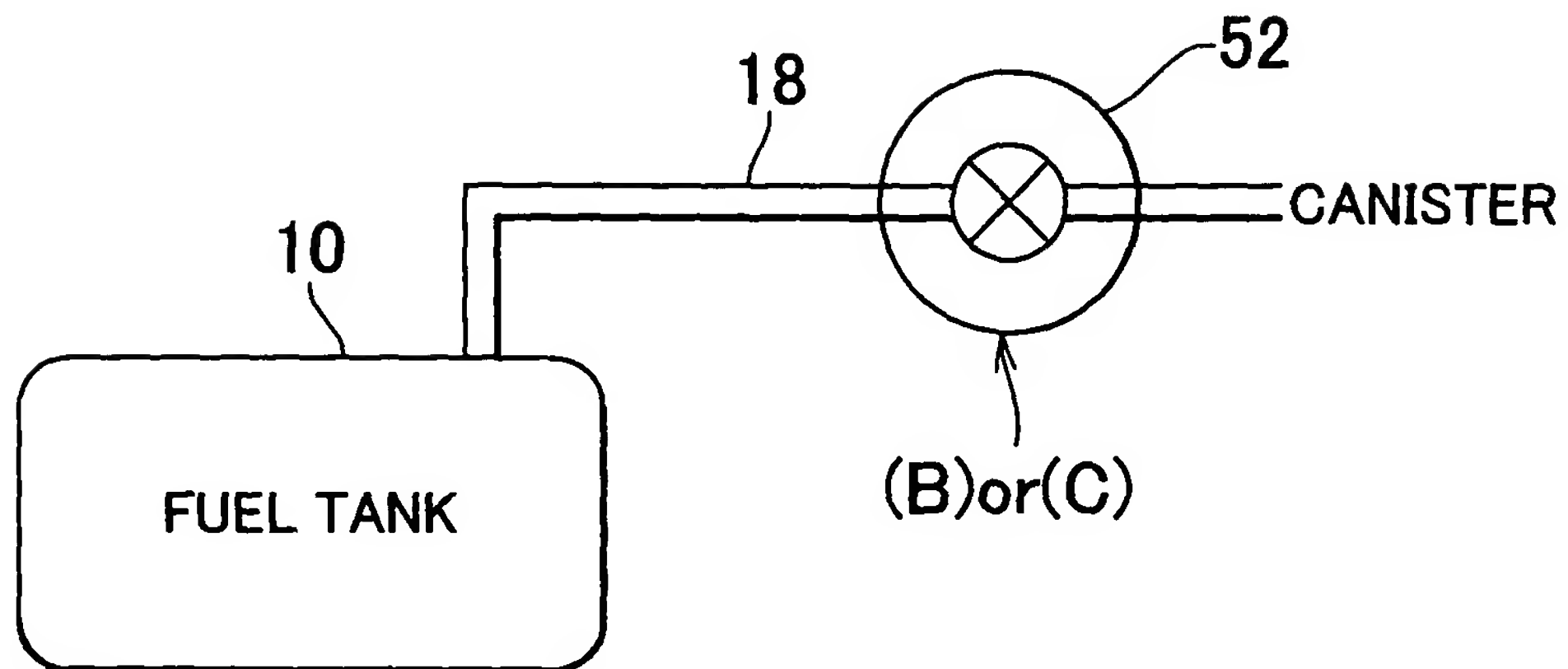


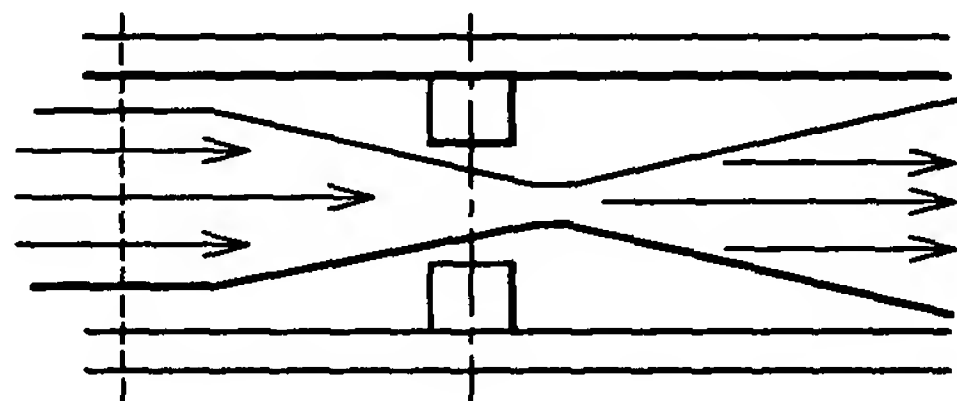
FIG. 9B



# FIG. 10 A



# FIG. 10 B

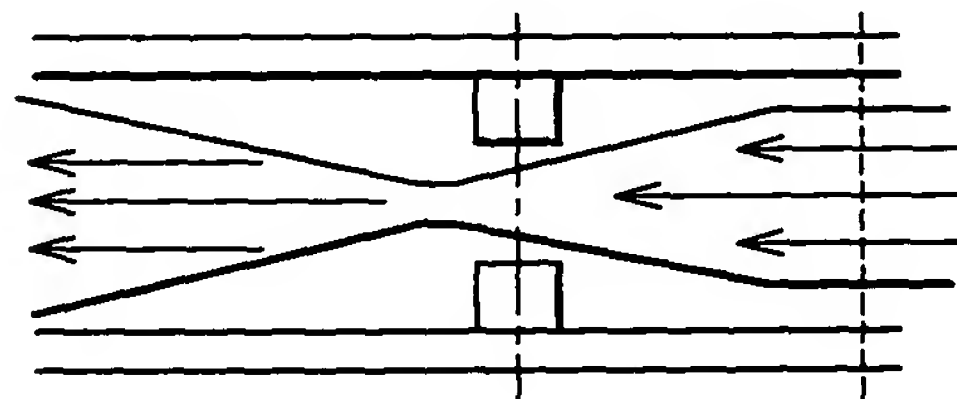


PRESSURE :  $P_{out}$   
 TEMPERATURE :  $T_{out}$   
 CROSS SECTIONAL  
 AREA :  $A_o$

PRESSURE :  $P_{in}$   
 TEMPERATURE :  $T_{in}$   
 CROSS SECTIONAL  
 AREA :  $A_{val}$

FROM TANK TO CANISTER

# FIG. 10 C



PRESSURE :  $P_{in}$   
 TEMPERATURE :  $T_{in}$   
 CROSS SECTIONAL  
 AREA :  $A_{val}$

PRESSURE :  $P_{out}$   
 TEMPERATURE :  $T_{out}$   
 CROSS SECTIONAL  
 AREA :  $A_o$

FROM CANISTER TO TANK

# FIG . 10 D

$$m = C_d \frac{P_{in}}{\sqrt{RT_{in}}} A_{val} \left( \frac{P_{out}}{P_{in}} \right)^{\frac{1}{r}} \sqrt{\frac{2r}{r-1} \left\{ 1 - \left( \frac{P_{out}}{P_{in}} \right)^{\frac{r-1}{r}} \right\}}$$

$C_d$  : FLOW RATE COEFFICIENT(COMPRESSIBILITY)

$r$  : RATIO OF SPECIFIC HEAT

$R$  : GAS CONSTANT

$m$  : MASS FLOW RATE

$A_{val}$  : AREA OF IN-TANK CONTROL VALVE OPENING

FIG. 11 A

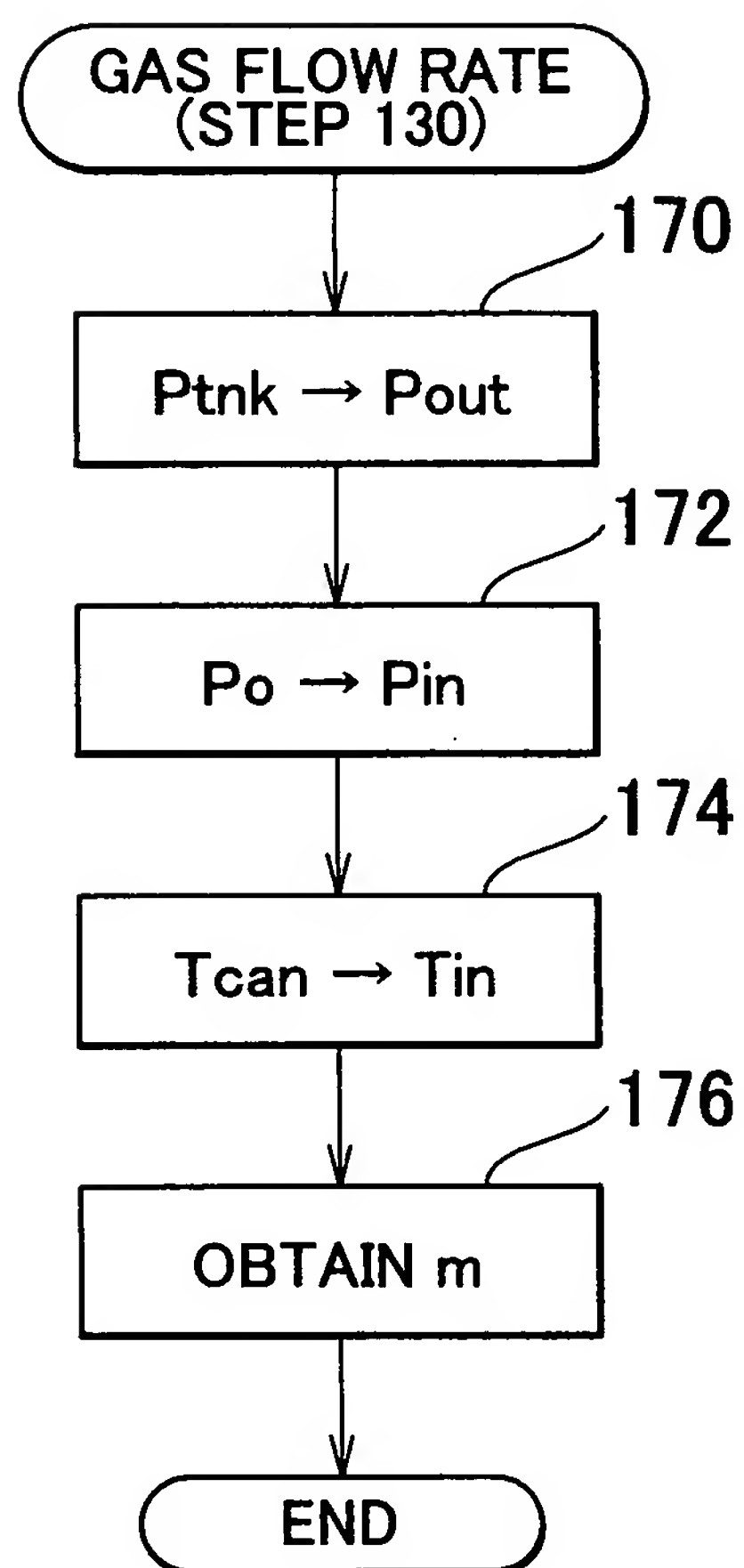


FIG. 11 B

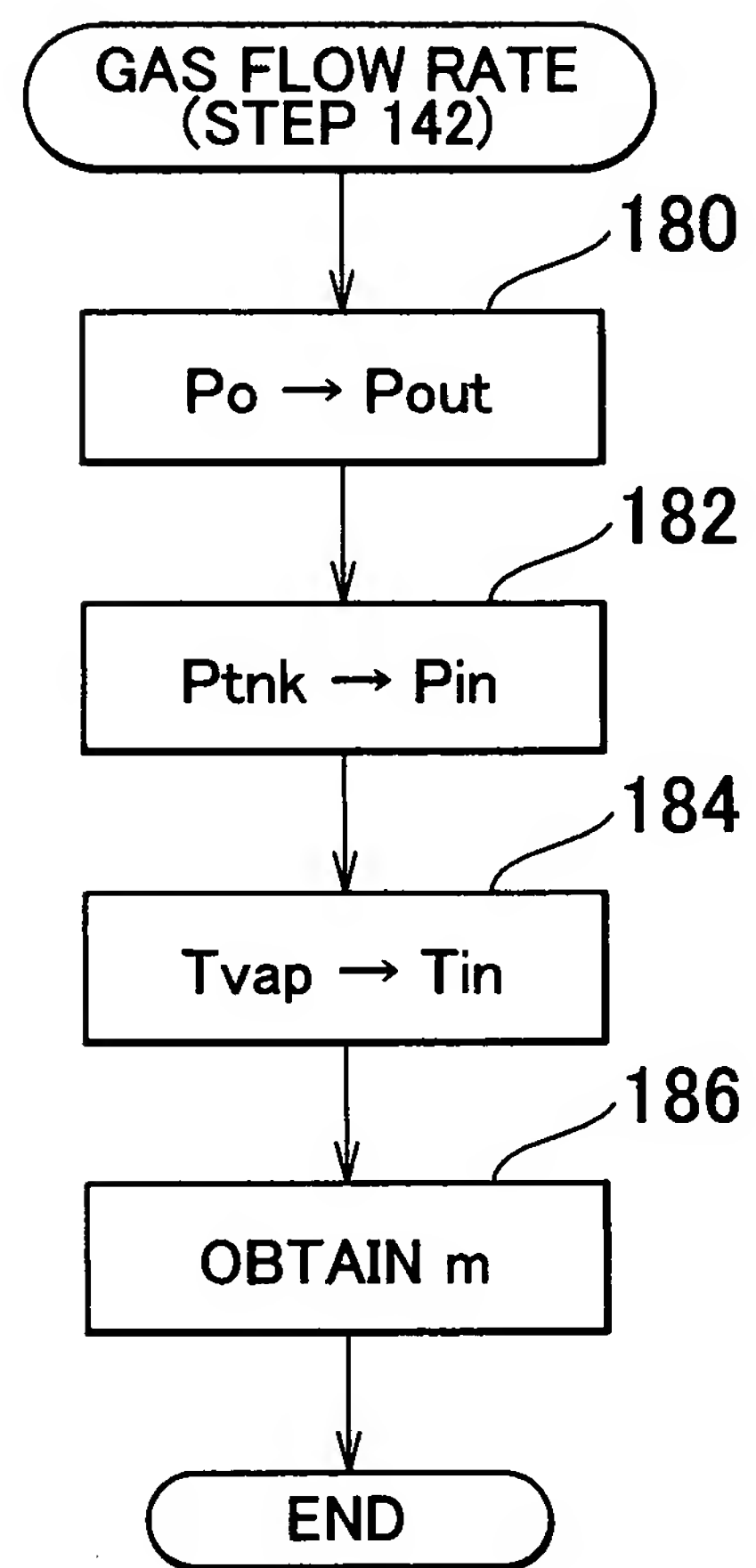
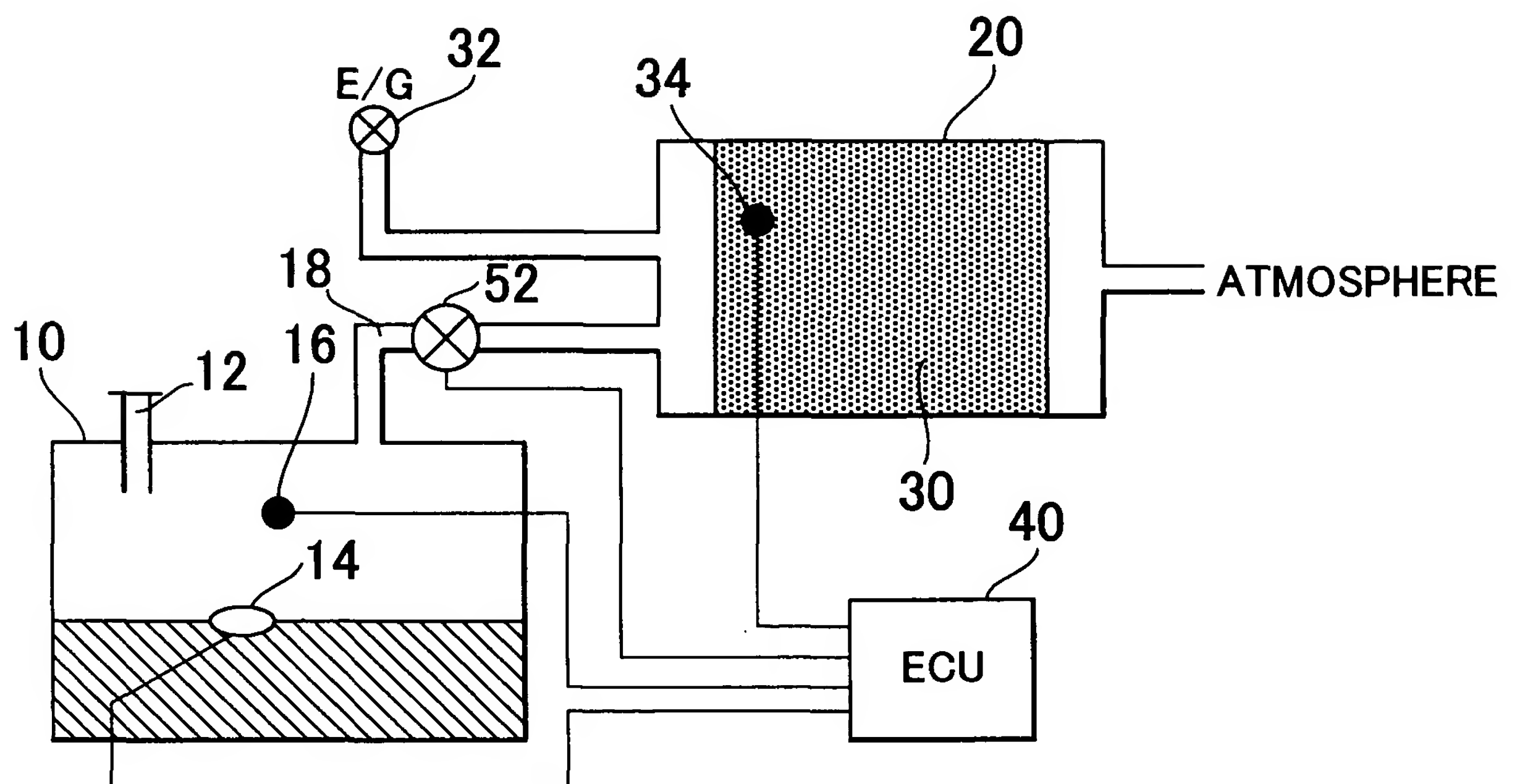


FIG. 12



# FIG. 13

